

REMARKS

Claims 1, 2 and 4 – 6 are pending and under consideration in the above-identified application. Claim 3 was previously cancelled.

In the Office Action, Claims 1, 2, and 4 – 6 were rejected.

In this Amendment, Claim 1 is amended. No new matter has been introduced as a result of this amendment.

Accordingly, Claims 1, 2 and 4 – 6 remain at issue.

I. 35 U.S.C. § 102 Rejection of Claims

Claims 1-2 and 4-6 were rejected under 35 U.S.C. § 102(e) as being anticipated by Tsuda et al. ("Tsuda") (U.S. Patent No. 5,936,688).

Claim 1 is directed to a method of manufacturing a diffusing reflector. The method comprises the processes of preparing a substrate, forming a first resin film having photosensitivity on said substrate, providing gathering of pillar-shaped bodies isolated from each other through patterning of said resin film with photolithography, deforming gently said pillar-shaped bodies through a reflow, forming an uneven surface layer having the maximum inclination angle of under 12° by coating said gently deformed pillar-shaped bodies and covering with a second resin open flat spaces located between said isolated pillar-shaped bodies *to form one concave gap between two adjacent isolated pillar-shaped bodies* thereby minimizing an occurrence of a flat surface area on said substrate; and forming a metal film on said uneven surface layer.

Applicants' FIGs 1A – 1E illustrate one embodiment using principles of Applicants' claimed invention. The embodiment of FIG. 1E comprises a diffusing reflector which includes a substrate 2, a gathering of deformed pillar-shaped bodies 11, a resin layer 12 coating the deformed pillar-shaped bodies 11 and the flat openings 2a to form concave gaps between adjacent deformed pillar-shaped bodies 11. Thus, flat surface areas 2a are eliminated from the uneven surface layer formed on the substrate, thereby removing any potential generation of a mirror-surface reflection.

This is clearly unlike Tsuda. The Examiner pointed out that Tsuda teaches in Figures 5E – H the steps of coating the gently deformed pillar-shaped bodies 32c and covering open flat spaces located between the isolated pillar-shaped bodies 32c with a second resin 34a and minimizing an occurrence of a flat surface area on the substrate 37. However, as shown in Figures 5G – I, Tsuda teaches forming convex shaped bodies 34c between the deformed isolated pillar-shaped bodies 32c. In support, Tsuda states:

“The protrusions 34b on the substrate 31 are rounded off by the following heat treatment process at about 140 to 240⁰ C., and are cured to be convex portions 34c, as shown in FIG. 5H, having a smooth surface without any sharp edges thereon. In the present example, the heat treatment is performed at about 180⁰ C. for about 10 minutes.

After these steps, as shown in FIG. 5I, a reflection film 36 is formed over the produced convex portions 32c and 34c on the substrate 31. In the present example, the reflection film 36 is formed by vacuum evaporation of Al. As well as Al, other metals (e.g., Al, Ni, Cr, Ag) which have a high reflectance and can be deposited to be a thin film without difficulty may be used to form the reflection film 36. The reflection film 36 is preferably formed to be about 0.01 to 1.0 μ m in thickness.”

(See column 10, lines 53 – 67). Thus, Tsuda discloses forming convex portions 34c instead of concave portions between convex portions 32c.

Hence, Tsuda fails to teach or suggest covering with a second resin open flat spaces located between the isolated pillar-shaped bodies to form one concave gap between two adjacent isolated pillar-shaped bodies thereby minimizing an occurrence of a flat surface area on the substrate, and forming a metal film on the uneven surface layer.

Accordingly, Claim 1 is patentable over Tsuda, as are dependent Claims 2 and 4 – 6. Applicants respectfully request withdrawal of these rejections.

II. Conclusion

In view of the above amendments and remarks, Applicants submit that Claims 1, 2 and 4 – 6 are clearly allowable over the cited prior art, and respectfully request early and favorable notification to that effect.

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